1984

The Frequency of Nurse Reported Stress and its Relationship to the Physical Attributes of Various Nursing Units

Richard Michael Jones

THE FREQUENCY OF NURSE REPORTED STRESS AND ITS RELATIONSHIP TO THE PHYSICAL ATTRIBUTES OF VARIOUS NURSING UNITS

by

Richard Michael Jones

A thesis

submitted in partial fulfillment

of the requirements for the degree of

Master of Science Major in Nursing

South Dakota State University

1984

THE FREQUENCY OF NURSE REPORTED STRESS AND ITS RELATIONSHIP TO THE PHYSICAL ATTRIBUTES OF VARIOUS NURSING UNITS

This thesis is approved as a creditable and independent investigation by a candidate for the degree Master of Science, and is acceptable for meeting the thesis requirements for this degree. Acceptance of this thesis does not imply that the conclusions reached by the candidate are necessarily the conclusions of the major department.

Evelyn T. Peterson, R.N., D.N.Sc., F.A.A.N. Date
Thesis Advisor

Carol J. Peterson, R.N., Ph.D., F.A.A.N. Date
Dean, College of Nursing

Title: THE FREQUENCY OF NURSE REPORTED STRESS AND ITS RELATIONSHIP TO THE PHYSICAL ATTRIBUTES OF VARIOUS NURSING UNITS

Student: Richard M. Jones

Type of Study ____ **Project** __X__ **Thesis**

Area of Focus of Study

____ **education**
____ **clinical practice**
__X__ **patient care management**
____ **other**

Abstract **(approximately 150 words)**

This study explored the frequency of nurse reported stress as measured by the Nursing Stress Scale. The research question was: What is the relationship between the physical attributes of a nursing unit and the frequency with which that unit's registered nurses perceive stressful situations? McGrath's Organizational Behavior Theory served as the theoretical framework for this study.

A survey methodology was used to collect data from a convenience sample of eighty-nine female registered nurses from ten medical/surgical nursing units in three hospitals in the northcentral United States. The scores, grouped by unit and hospital, were analyzed using descriptive tests and the inferential statistical measures of Nested ANOVA and Least Squares Differences. Low sample number was the major limitation of this research.

The results of the study indicated that workload was the primary cause of nursing stress on most units. There were no significant differences in stress scale scores between hospitals, but the variances in nurse reported workload stress did significantly differ between three units within one hospital. Physical characteristics of the unit environment, i.e. size, design, occupancy rate, average daily census, and patient/staff ratios, did not appear to be related to the frequency with which the registered nurses reported workload as stressful.

I give my permission to the College of Nursing, SDSU to publish this abstract in a collection of abstracts from master's projects and theses.

Richard M. Jones
Signature

Date April 6, 1984

ACKNOWLEDGEMENTS

The author wishes to express gratitude and appreciation to the following people:

To Dr. Evelyn Peterson for her guidance and advice in this thesis and throughout my graduate experience;

To Dr. Charles Blazey for his assistance as a thesis advisor;

To Dr. Donna Hess for serving on my thesis committee;

To Dr. Lee Tucker for his advice and help with computer and statistical analysis, and to Ms. Mary Marquardt for her help in designing the data collection tools;

To Mr. Ron Geidd and Dr. Brian Kaatz for their assistance with word processing and printing;

To the nursing administrators of the involved hospitals for making it possible to conduct this study within their respective institutions;

And finally, but most importantly, to my wife, Donna, for her inspiration and support, without which this study would never have been completed.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Determination of Research Involvement
With Human Subjects
Graduate Program
College of Nursing
South Dakota State University

Definition of Human Subjects

This term describes any individual who may be at risk as a consequence of participation as a subject in research, development, or related activities. Subjects may include patients; outpatients; donors of organs, tissues and services; and normal individuals, including students or others who are placed at risk during training in medical, psychological, sociological, educational, and other types of activities. Of particular concern and meriting special consideration are those subjects in groups with limited civil freedom. These include prisoners and residents of clients of institutions for the mentally ill and mentally retarded. Minors are also of particular concern. The unborn and the dead will be considered subjects only under conditions and to the extent permitted by law and regulation.

The proposed master's research project/thesis titled
THE FREQUENCY OF NURSE REPORTED STRESS AND ITS RELATIONSHIP TO THE PHYSICAL ATTRIBUTES OF VARIOUS NURSING UNITS

has been discussed regarding whether it involves human subjects. We (advisor and student) have determined that

A. (Check one)

____ Human subjects are not involved because _____

_____

_X_ Human subjects are involved ~~because~~ but not at risk nor limited in freedom of participation.

B. (Check one)

____ The student will initiate contact with the University Human Subjects Committee and proceed according to established University guidelines.

_X_ The student need not forward his/her proposal to the Human Subjects Committee.

Richard W. Jones
Signature: Student

Date: October 26, 1983

Carolyn J. T. Peterson
Signature: Project/Thesis Advisor

Date: October 26, 1983

cc: Advisor
Student
Dean of Nursing's Office
Graduate Program Office

CHAPTER 1

Introduction to the Research

Chapter one includes an introduction to the problem, a statement of the problem, a discussion of the significance of the study, a description of the theoretical framework, definitions of pertinent terms, and finally, a statement of the study objectives and the thesis organization.

Introduction to the Problem

The nursing profession has a high attrition rate with respect to its work force. A 1977 study conducted by the United States Department of Labor estimated that twenty-seven percent of the total nurse population was neither employed nor looking for work.(1) Holding this percentage constant for the 1980 statistics, there are approximately 400,000 additional registered nurses who are not working today.(2)

White asserts that "burnout" is the primary factor responsible for the attrition rate among professional nurses.(3) Burnout is defined by Lavendero as the ineffective ability to cope with stress in the work environment. He argues that conclusive evidence concerning the causal factors of nursing stress is limited and that research is needed to identify specific stressors.(4)

The professional literature indicates that stress occurs in response to "stressors" within the work environment.(5,6,7)

Several of these stressors have been identified through nursing research,[8,9] but their relationships to specific attributes of the environment have rarely been studied.

One aspect of the work environment is the physical environment. Nurses generally work within a specified geographic area of a hospital, known as the nursing unit. The physical attributes of nursing units may vary among hospitals and among units within hospitals. This researcher believes that these differences in the physical attributes of units may significantly alter the types and numbers of stressors which arise within this work environment, and, therefore, the frequencies with which nurses perceive stress. This study explores the relationships of a nursing unit's physical attributes to the frequency of perceived stressful situations on that unit.

Statement of the Problem

What is the relationship between the physical attributes of a nursing unit and the frequency with which that unit's registered nurses perceive stressful situations?

Significance of the Study

The nurse manager should become knowledgeable of the relationships of nurse reported stress to the physical characteristics of nursing units. Knowledge of these environmental relationships may be used by nurse managers to reduce or maintain environmental stressors at levels which

are conducive to optimal nursing productivity. The results of this study may also be used in evaluating and renovating existing nursing unit structures, or may be used by planners and architects in designing new nursing units.

Theoretical Perspectives

McGrath identifies a framework which accounts for the interrelationships between several environmental systems of an organization and any member of such an organization.[10] He describes the role environmental systems play in producing employee stress.[11] Therefore, McGrath's paradigm served as a framework for this investigation.

McGrath's conceptual framework consists of three intersecting systems. These conceptual systems are the "physical environment", "social environment", and "person system." Organizational behavior is, thus, represented by the interactions of these three systems[12](Figure 1).

McGrath's schema allows the researcher to examine areas where only two systems intercept each other. The intersection of the "physical" and "social" environmental systems represents the "behavior setting", whereas the setting represented by the intersection of "physical" and "person" systems is known as the "task setting". "Role setting" is represented by the intersection of "person" and "social" systems.[13]

McGrath has postulated that the following six interactions, as described in his paradigm, are related to stress:

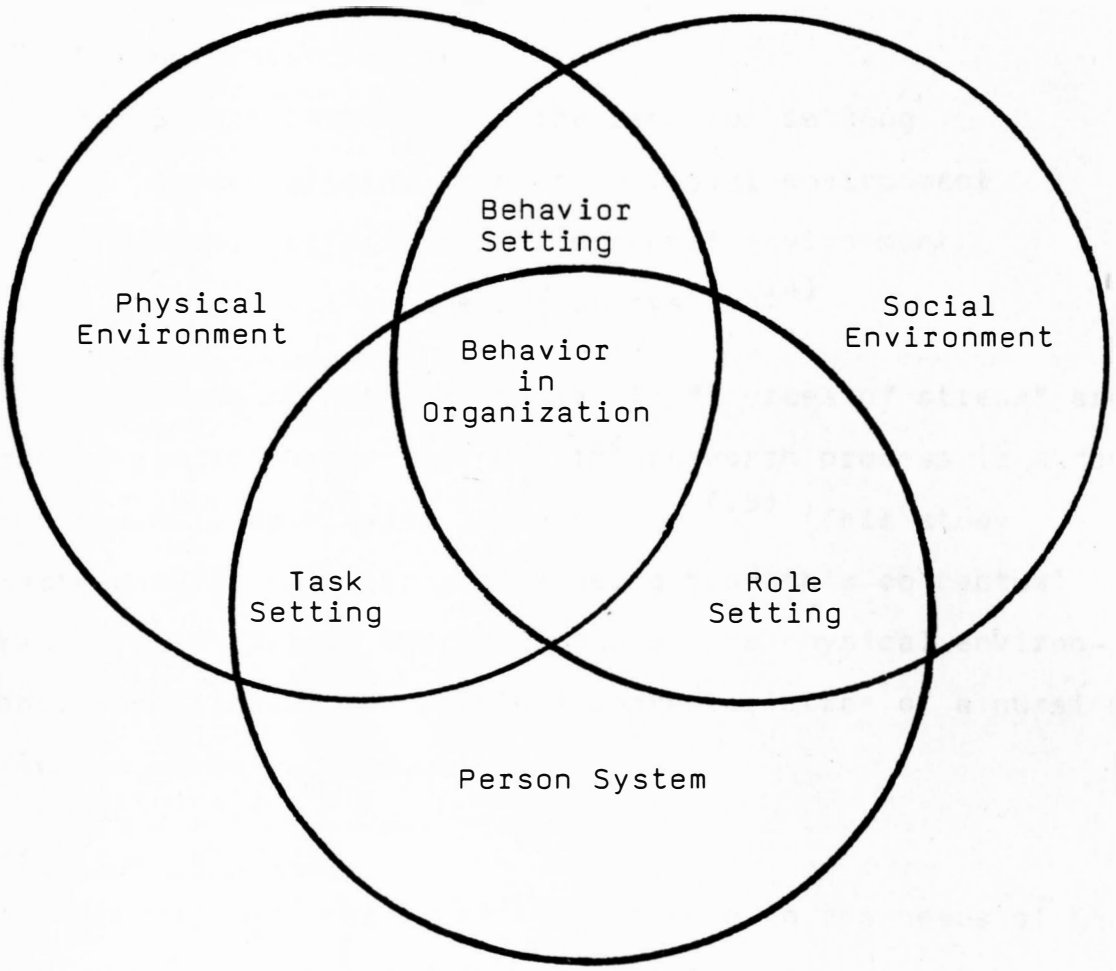

Figure 1

Behavior in Organizations*

*Adapted from, Joseph E. McGrath, "Stress and Behavior in Organizations." In Handbook of Industrial and Organizational Psychology, ed. Marvin D. Dunnette (Chicago: Rand-McNally, 1976), p. 1368.

1. Task-based stress
2. Role-based stress
3. Stress intrinsic to the behavior setting
4. Stress arising from the physical environment
5. Stress arising from the social environment
6. Stress within the person system[14]

According to McGrath, these six "sources of stress" are rarely seen independently, but the research process is aided significantly by viewing them as such.[15] This study examined nurse reported stress using McGrath's conceptual framework to explain the influence of the physical environment, specifically the physical characteristics of a nursing unit, on nurse related stress.

Definition of Terms

Definitions specifically applicable to the needs of this study evolved from common hospital terminology as is known to this researcher through reading and experience. The following definitions applied to this research:

Average Daily Census - The average number of patients cared for on a nursing unit. This is found by multiplying the size of a unit by the occupancy rate.

Full Time - Works an average of thirty-two hours or more per week.

General Medical/Surgical Nursing - Nursing care that is not limited to less than two specified types of patient

problems or critical and highly technical nursing activities.

Nursing Unit - A specific geographical area of a hospital where a designated staff of registered nurses and other nursing personnel provide medical/surgical nursing care to a limited number of patients.

Nursing Unit Size - The number of available patient beds on a given nursing unit.

Occupancy Rate - The percentage of available patient beds on a nursing unit that are occupied during a twenty-four hour period.

Patient/Staff Ratio - The occupancy rate multiplied by the nursing unit size and then divided by the average number of nursing personnel staffed on the unit per shift.

Patient/Registered Nurse Ratio - The occupancy rate multiplied by the nursing unit size and then divided by the average number of registered nurses staffed on that unit per shift.

Physical Attributes - Those characteristics of a nursing unit which are related to the structure, design, use and staffing of that unit.

Registered Nurse - A provider of nursing care who has graduated from an associate, diploma or baccalaureate nursing program and has met state requirements for registration.

Stress - As defined by Gray-Toft and Anderson, "an external cue that threatens the equilibrium of an individual."(16)

Objectives of the Study

The objectives are as follows:

1. To determine the frequency at which stressful situations are reported by registered nurses working on selected nursing units.

2. To determine if there is a significant variance in the frequencies of stressful situations between hospitals and between units within hospitals.

3. To determine whether there is a significant relationship between the physical attributes of a nursing unit and the frequency at which nurses perceive stressful situations.

Organization of the Study

The organization of this study will be as follows:

1. Chapter 1 introduces the problem.

2. Chapter 2 contains a selected review of literature.

3. Chapter 3 describes the research design and methodology.

4. Chapter 4 presents the analysis of data.

5. Chapter 5 includes the summary and conclusions.

In summary, this chapter has included an introduction to the problem, a statement of the problem, a statement of the significance of the study, a description of the theoretical framework, definitions of pertinent terms, and finally, a statement of the study objectives and the thesis organization.

CHAPTER 2

Review of Literature

This chapter reviews selective literature on stress in the workplace, stress in the nursing environment, and, finally, workload as a cause of nursing stress.

Stress in the Workplace

The modern concept of stress was first identified by Hans Selye in 1936. Since that time a number of studies have been conducted to examine stress in the workplace, its causes, and its effects.

Selye's work primarily focused on the physiological effects of stress. He concluded that stress is a state in which the body responds non-specifically to environmental events which disrupt normal body functioning, and, therefore, affect all parts of the body.(17)

Veninga clarifies and summarizes Selye's conclusions by defining those concepts related to the stress process. He describes a "stressor" as anything that an individual perceives as threatening. This is different from the "stress state", which Veninga refers to as a disruption in an individual's homeostasis, and from the "stress response", to which he assigns the actual physiological or psychological reaction.(18) Selye refers to this reaction as the General Adaptation Syndrome.(19)

This adaptation process is discussed by McGrath. He maintains that peoples' abilities to adapt to stress are relative to their perceptions and interpretations of the stressor and its consequences, and elaborates on this concept by stating that:

> There is a potential for stress when an environmental situation is perceived as presenting a demand which threatens to exceed the person's capabilities and resources for meeting it .... (20)

McGrath goes on to examine the relationship of stress and adaptation to the work environment. He postulates that stress is related to productivity in the workplace, and that there is an optimum level of stress with regard to performance. Too little stress fails to arouse and motivate workers, while too much stress overloads the workers' abilities to adapt, and as a result, their performance levels wane. This hypothesis is known as the Inverted-U Theory.(21)

Pope supports these tenets on stress and productivity. She also maintains that it is the function of an organization to establish a climate wherein optimal levels of stress are encouraged. She proposes that this can be done by regulating work flows and providing appropriate environments for work.(22)

The professional literature indicates that stressors are "pervasive" in the work environment.(23) Patrick classifies these job stressors into two categories, namely, "System-generated" and "Self-generated". She describes the former as work demands, work setting, lack of support, and isolation

caused by job responsibilities. Self-generated stressors, on the other hand, include emotional demands, lack of self-awareness, self-imposed restrictions, and stress in personal life.[24]

System-generated stressors are of particular interest to this study. Work demand, which Patrick suggests is a form of system-generated stress, is also reported as such by Veninga. He states that quantitative and qualitative work overload are important sources of stress.[25] Miller hypothesizes that work overload will lead to a breakdown of an entire organization as it does in a single biological cell.[26]

Stress in the Nursing Environment

In 1960, Menzies identified nursing as a stressful occupation.[27] This was reemphasized by Michaels in 1971.[28] Holsclaw supports these authors' claims by stating that nurses are highly vulnerable to stress because of the many interpersonal relationships which develop as a result of interactions with large numbers of personnel and patients.[29]

There are studies which identify type of nursing as a major determinant of stress. Several researchers refer to intentive care unit nursing as more stressful than other types of nursing.[30,31,32] Intensive care nursing units were criticized for their stressfulness by Edelstein in

1966.[33] A 1972 study by Hay and Oken found intensive care to be a stressful environment as a result of the massive array of sensory stimuli, repeated contact with death and the formidable workload.[34] Gentry and his co-authors, following a review of the literature between 1973 and 1981, stated that the studies reviewed did not indicate that intensive care units were more stressful. Gentry and his associates concluded that there was no clear evidence to suggest either intensive care or non-intensive care nursing as more stressful.[35]

A more recent study of stress in intensive care versus non-intensive care nursing has focused on state and trait anxiety scores of nurses rather than environmental factors. Maloney found that non-intensive care nurses had significantly higher state anxiety scores than intensive care nurses. His findings were reversed for trait anxiety. He concluded that intensive care unit nurses tend to have greater stress tolerance.[36]

Maloney suggested that there is a need for reducing stress in non-intensive care environments. He recommended that this could be done by providing a proper match between stress tolerance and the unit worked and by reducing the stressors in the work environment.[37]

Workload as a Cause of Nursing Stress

A number of researchers have compared the stress levels

of intensive care nurses to that of non-intensive care nurses. For example, Caldwell and Weiner reviewed six studies on stress in intensive care nursing. As a result of their review, they identified work volume to be the prominent cause of stress in all studies reviewed.(38)

Other researchers report similar findings regarding stress factors in non-intensive care nursing units. Albrecht asserts that stress is tied to work overload, as well as to the nature of the tasks, salary, hours, staffing patterns, and friction or tension in relationships.(39) Carbin supports Albrecht's assertions that heavy workload is a major cause of stress, and states that the nature of relationships may add to stress. She cites both the lack of support and the lack of communication as problems in relationships leading to stress.(40)

A study conducted by Parasuraman and his colleagues on the effects of nursing care modality and shift assignments found that stress was perceived to be greater among primary care nurses than nurses working in teams. These researchers also found that shift assignments were a significant contributor to stress, although the most frequently perceived stress factor in this study was work overload.(41)

In a study of nurses' perceptions of autonomy in various nursing contexts, Alexander and associates concluded that as workload increased, autonomy decreased. They found that autonomy was directly related to the job satisfaction of

professional nurses. These authors suggested that the nurses' perceptions of autonomy were influenced by the structural characteristics of the nursing unit.(42)

Lavendero maintains that stress factors in the work environment include a difficult workload, a disproportionate number of patients to nurses, inconsistent work schedules, and a lack of power.(43) He postulates that the structural characteristics and the physical qualities of a work environment may, in fact, contribute to burnout, which he defines as the ineffective ability to cope with stress.(44)

The realtionships of the nursing environment to stressors and their effects was also studied by Gray-Toft and Anderson. They used the Nursing Stress Scale to measure the frequency of stressors on different nursing units, and found a significant difference was noted in three of the five units studied.(45) The researchers concluded that factors inherent in specific nursing roles, certain personality attributes, and different structural characteristics of hospital units were important determinants of stress among the nursing staff.(46) They also found that the major sources of stress were similar on all units. The most frequently reported cause of stress was workload.(47)

This chapter has presented a review of selected literature relating to stress in nursing. A majority of the research studies cited in this review support the idea that stress arises from the work environment, with work overload

being the most frequent cause. Few studies were found which directly addressed the relationship of the physical nursing environment to stress factors.

CHAPTER 3

Methodology

This chapter explains and describes the research approach, research tool, data collection procedures, plus the assumptions and limitations of the study.

Research Approach

An exploratory study was conducted to identify what relationships exist between the frequency at which registered nurses experience stressful situations and the physical characteristics of the nursing unit on which they work. Polit and Hungler explain that this approach can provide the researcher with a fuller understanding of phenomena and their relationships.(48)

This study was designed to use the survey approach for the collection of data. This approach facilitates the investigative process through the analytic possibilities it presents.(49) The collected data was subjected to statistical manipulation to determine if significant relationships exist.

Variable Identification

The independent variable in this study was the nursing unit, defined as a "specific geographical area of a hospital where a designated staff of registered nurses and other nursing personnel provide general medical/surgical nursing care to a limited number of patients."

Certain attribute variables of each unit were considered pertinent to this study. They included unit size and design, occupancy rates, average daily census, and patient/staff ratios.

The dependent variable was the frequency of stressful situations perceived by registered nurses as measured by the Nursing Stress Scale. Attribute variables of each nurse may have been extraneous to the problem under study. These included age, sex, family considerations, education, experience and role. The variables of sex, experience and role were carefully controlled by limitations placed on the sample population.

Research Population

The study population included eighty-nine female registered nurses working on general medical/surgical nursing units in three hospitals in the north central United States. Each nurse had at least six months unit experience, and functioned full-time in a nursing line position below the level of head nurse.

Sample Selection

Criteria sampling was used in selecting participants for the study. The criteria met by each included the following:

1. Participants work full-time on one of the selected nursing units.

2. Participants work in nursing line positions below that of head nurse.

3. Participants are female.

4. Participants have at least six months unit experience.

This researcher considers experience and full-time employment as necessary criteria for a valid response to the survey. Males were not included because of their low number in the initial sample. Head nurses were also excluded because of their low numbers within the sample and a variation in role and responsibility which could affect their exposure to stressful situations.

Research Tool

The research tool used in this study was the Nursing Stress Scale developed by Gray-Tofts and Anderson.[50] This is a thirty-four item survey which allows the respondent to denote a frequency at which certain stressful situations are experienced (Appendix A).

Each item lists a stressful situation, and respondents answer each item by using a four-point scale to indicate the frequency with which the situations occur on their unit. The answers are numerically weighted as follows: never (0), occasionally (1), frequently (2), and very frequently (3). This allows for the computation of scores which can be analyzed for within and between group variances. In order for this researcher to group respondents properly, tools were developed to compile data on individual respondents, nursing units, and hospitals (Appendices B and C).

The Nursing Stress Scale items are categorized into

seven sub-scales, which represent major stressful factors. Gray-Tofts and Anderson grouped the scale items according to commonalities through the use of squared multiple correlations and quartimax and varimax rotation techniques.(51) Furthermore, each sub-scale is represented in the survey by three to seven items which are intermixed throughout the schedule.

Along with major stressful factors, Gray-Tofts and Anderson also describe the seven major stress factors in relation to the physical, psychological and social environments.(52) The following are the seven sub-scale factors grouped according to their environmental relation:

Physical Environment

Factor VI: Workload

Psychological Environment

Factor I: Death and Dying

Factor III: Inadequate Preparation

Factor IV: Lack of Staff Support

Factor VII: Uncertainty Concerning Treatment

Social Environment

Factor II: Conflict with Physicians

Factor V: Conflict with Other Nurses

The authors of the tool estimated reliability of the Nursing Stress Scale with test-retest and internal consistency measures. These tests included the Spearman-Brown Coefficient, Guttman Split-Half Coefficient, Coefficient Alpha, and Standardized Item Alpha. The reliability measures for total

stress ranged from 0.79 to 0.89.[53] In addition, the validity of the scale was supported by comparing its results to tests for trait anxiety, state anxiety, job satisfaction and turnover rates. Product moment correlations of the Nursing Stress Scale with trait anxiety and state anxiety were significant. Turnover rates corresponded to the means of Nursing Stress Scale scores.[54]

Data Collection Procedures

Permission to conduct this study was granted by the respective nursing administrators of the three hospitals selected for their geographic convenience to the researcher. Each nursing administrator was interviewed in order to gather demographic data on their respective hospital and its various nursing units. Only those nursing units which met the prescribed criteria of delivering general medical/surgical nursing-type care were chosen for this study.

As a result of these interviews, the registered nurses working on these units served as the general population from which the study sample was drawn. The researcher was then informed by each nursing administrator about the method in which the nursing staff could be approached for participation. The result of this was two slightly different methods, namely written and verbal.

The respondents representing those units identified as one through six were asked to participate via written communications. Registered nurses working on these units

were issued letters which explained the study and their involvement if they volunteered to participate (Appendix D). To each letter was attached a copy of the Nursing Stress Scale, the individual demographic form, and a return envelope. Respondents were asked to seal the completed questionnaires in the envelopes and return them either to nursing administration or to a collection site on the unit. Those completed schedules were collected by this researcher one week later. The combined response rate for this method was 65.48 percent.

In the second method, the respondents representing those units identified as seven through ten were asked to participate via verbal request. Registered nurses working one of four midweek shifts were sought out by the researcher in the work setting and asked if they would consider participation. If they agreed, they were given the same packet of information, forms, and return envelope as those who were contacted by written means only. Completed questionnaires were returned to specified collection areas on the unit and gathered by this researcher within three days. This method resulted in a return rate of 98.81 percent. Consequently, the overall return rate for both methods was 82.14 percent.

Assumptions

Assumptions of the study included the following:

1. The respondents answered the Nursing Stress Scale conscientiously and honestly.

2. The respondents had the same understanding of the instructions and scale items.

Limitations of the Study

Limitations of the study included the following:

1. The study used the non-probability sampling technique of convenience in selecting the sampling pool from three area hospitals. Therefore, the findings cannot be generalized to the entire population of general medical/surgical nursing units in the United States.

2. The size of the sample of nursing units was limited in number. This resulted in a relatively homogeneous population. Therefore, extraneous variables related to the nursing unit were difficult to control, and as a result, the findings may be skewed.

3. The size of the sample of nurses responding from each unit was small and may not accurately reflect a true state. This is especially true with unit four.

4. Nurses participated on a voluntary basis rather than by random selection. This may have resulted in a skewing of findings since it is possible that some of the nurses had ulterior motives for participation.

5. Inconsistency in the methodology of seeking participation may have influenced respondents' answers.

This concludes this chapter, which explained the research approach, research variables, study population,

sample selection, research tools, data collection procedures, and the assumptions and limitations of the study.

CHAPTER 4

Analysis of Data

This chapter reports demographic characteristics of the sample and the analysis of the Nursing Stress Scale scores.

Characteristics of the Sample

This study was performed in three hospitals ranging in size from 144 to 518 beds. A sample of 89 nurses was drawn from ten general medical/surgical nursing units within these hospitals. The units studied were similar in that they provided the same basic types of nursing care, but as Table 1 demonstrates, they varied in several demographic characteristics which include size, occupancy rates, average daily census, patient/registered nurse ratio, and patient/staff ratio.

Eighty-nine full-time female registered nurses were used in conducting this study. Head nurses and males were excluded from the sample population because of their low numbers and unique role.

The ages of the nurses ranged from twenty-one to fifty-eight years, and the mean age was 31.7 years. Means and ranges of professional experience as a registered nurse were calculated by unit, hospital, and total experience. These figures are summarized in Table 2.

Thirty-seven (41.6 percent) of those surveyed held

Table 1

Unit Demographic Data

Unit	Available Beds	Occupancy Rate	Average Daily Census	Patient Staff Ratio	Patient RN Ratio
1	33	80.0	26.4	6.93	12.32
2	38	56.1	21.3	5.59	12.78
3	41	77.8	31.9	7.05	14.89
4	44	51.8	22.8	5.04	9.58
5	50	64.7	32.4	4.93	10.31
6	50	74.3	37.1	4.35	9.64
7	71	87.4	62.0	3.95	7.81
8	71	89.2	63.3	4.09	8.22
9	72	84.2	60.6	3.78	8.37
10	72	88.9	64.1	3.50	6.08

Table 2

Age and Experience Characteristics of the Study Population*

Variable	Mean	Range
Age	31.69	21-58
Experience		
Total	8.4	1.0-37
Current Hospital	4.8	1.0-27
Current Unit	3.8	1.0-20

*Listed in years

diplomas. The second largest number of nurses by education, thirty (33.7 percent), were those with a baccalaureate degree in nursing. Table 3 illustrates these and other frequencies regarding educational background.

Table 3

Educational Background of the Study Sample

Education	Frequency	Percent
Associate Degree	17	19.10
Diploma	37	41.57
Baccalaureate (Non-Nursing)	4	4.49
Baccalaureate (Nursing)	30	33.71
Master of Science	1	1.12

Data was also collected concerning type and length of shift. As Table 4 illustrates, a high percentage (38.2 percent) indicated that they always work days. Thirty-one (34.8 percent) of the respondents reported working a day/night rotation. Sixty-one respondents (68.5 percent) work twelve hour shifts as compared to twenty-eight (31.5 percent) who work the traditional eight hour shift.

Nursing role was also considered in collecting the data. Sixty-seven (75.3 percent) of those surveyed indicated that they worked most often as staff RN's. Eleven nurses classified themselves as assistant head nurse. These figures are

Table 4

Shift Type and Length
of the Study Sample

Shift	Frequency	Percent
Type:		
Day	34	38.20
Evening	5	5.62
Night	9	10.11
Day/Evening	10	11.24
Day/Night	31	34.83
Length:		
8 Hour	28	31.46
12 Hour	61	68.54

listed in Table 5.

Table 5

Job Positions of the Study Sample

Position	Frequency	Percent
Staff Nurse	67	75.28
Charge Nurse	11	12.36
Assistant Head Nurse	11	12.36

Analysis of Data

The data analysis was performed in four stages, namely, tabulation of Nursing Stress Scale scores, and computation of group means, Nested Analysis of Variance test, and the Least Squares Difference test.

First of all, the demographic information and Nursing Stress Scale raw scores were computed and tabulated. The Nursing Stress Scale raw score represents a sum of the answers to all items. Item 24 was deleted because of a typing error; therefore, the total score represents the sum of thirty-three items. Sub-scale scores were found by grouping the items according to related factors and then finding the sum. Table 6 lists the survey items according to sub-scale factor.

Next, the raw scores were grouped by hospital and unit. Group means were derived from the total raw scores and the

Table 6

List of Survey Items by Subscale Group

ITEM	
	Factor I: Death and Dying
25	Performing procedures that patients experience as painful
26	Feeling helpless in the case of a patient who fails to improve
28	Listening or talking to a patient about his/her approaching death
30	The death of a patient
34	The death of a patient with whom you developed a close relationship
35	Physician not being present when a patient dies
43	Watching a patient suffer
	Factor II: Conflict with Physicians
24	Criticism by a physician (Omitted)
31	Conflict with a physician
32	Fear of making a mistake in treating a patient
36	Disagreement concerning the treatment of a patient
41	Making a decision concerning a patient when the physician is unavailable
	Factor III: Inadequate Preparation
37	Feeling inadequately prepared to help with the emotional needs of a patient's family
40	Being asked a question by a patient for which I do not have a satisfactory answer
45	Feeling inadequately prepared to help with the emotional needs of a patient
	Factor IV: Lack of Support
29	Lack of an opportunity to talk openly with other unit personnel about problems on the unit

Table 6
(Continued)

ITEM	
33	Lack of an opportunity to share experiences and feelings with other personnel on the unit
38	Lack of an opportunity to express to other personnel on the unit my negative feelings toward patients
	Factor V: Conflict with Other Nurses
27	Conflict with supervisor
42	Floating to other units that are short-staffed
44	Difficulty in working with a particular nurse (or nurses) outside the unit
46	Criticism by a supervisor
51	Difficulty in working with a particular nurse (or nurses) on the unit
	Factor VI: Workload
23	Breakdown of computer
47	Unpredictable staffing and scheduling
49	Too many non-nursing tasks required, such as clerical work
50	Not enough time to provide emotional support to a patient
52	Not enough time to complete all of my nursing tasks
56	Not enough staff to adequately cover the unit
	Factor VII: Uncertainty Concerning Treatment
39	Inadequate information from a physician regarding the medical condition of a patient
48	A physician ordering what appears to be inappropriate treatment for a patient
53	A physician not being present in a medical emergency

Table 6
(Continued)

ITEM	
54	Not knowing what a patient or a patient's family ought to be told about the patient's condition and its treatment
55	Uncertainty regarding the operation and functioning of specialized equipment

raw scores of each sub-scale. These means were also adjusted to correspond to the values of the four-point scale used by the respondents in the survey. The adjustment was made by reducing the raw scores by the number of items used to sum that score. Table 7 summarizes the means and adjusted means for each hospital. A summary of the unit mean scores for each sub-scale and the total scale is presented in Table 8.

The number of respondents on each unit is less than twenty. The range is from N=16 (Units 8 and 9) to N=1 (Unit 4). Figure 2 dramatizes the movement of mean scores among the various sub-scales and also exemplifies the potential error created by the inclusion of Unit 4.

The third statistical procedure subjected the raw score means to a Nested Analysis of Variance test to evaluate differences between hospitals and between units within hospitals. The test was applied for each sub-scale and the total scale, the analysis failed to identify any variance between hospitals at the 0.05 level. It did reveal, though, a significant variance between units within hospitals in the Workload sub-scale. The F value (0.0291) was significant at the 0.05 level. Table 9 provides a compendium of these scores.

Finally, the Least Squares Difference test was applied to that data which displayed a significant finding in the nested ANOVA. This fourth statistical test identified the specific units where the variance in Workload sub-scale was significant. The probability of the least squared means of

Table 7

Nursing Stress Scale Mean and Adjusted* Mean Scores by Hospital

Hospital	N	Death and Dying	Conflict with Physicians	Inadequate Preparation	Lack of Support	Conflict with Nurses	Work-load	Uncertainty Concerning Treatment	Total
A	13	10.1 (1.44)	5.0 (1.25)	4.7 (1.57)	2.9 (0.97)	6.5 (1.30)	11.2 (1.87)	5.5 (1.10)	45.8 (1.39)
B	15	9.0 (1.28)	4.6 (1.15)	3.7 (1.23)	2.7 (0.90)	5.9 (1.18)	9.1 (1.52)	6.2 (1.24)	41.2 (1.25)
C	61	9.9 (1.41)	5.5 (1.37)	3.8 (1.27)	2.9 (0.97)	5.2 (1.04)	9.7 (1.62)	6.9 (1.38)	44.0 (1.33)

*Denotes adjustment to original survey scale. Listed in parentheses.

Table 8

Nursing Stress Scale Mean and Adjusted*
Mean Scores by Unit

Unit	N	Death and Dying	Conflict with Physicians	Inadequate Preparation	Lack of Support	Conflict with Nurses	Work-load	Uncertainty Concerning Treatment	Total
1	4	11.0 (1.57)	6.2 (1.55)	3.5 (1.17)	4.2 (1.40)	6.5 (1.30)	10.8 (1.80)	8.2 (1.64)	50.5 (1.53)
2	5	8.6 (1.23)	4.0 (1.00)	4.2 (1.40)	1.6 (0.53)	5.8 (1.16)	8.2 (1.37)	5.4 (1.08)	37.8 (1.15)
3	5	7.2 (1.03)	3.6 (0.90)	3.0 (1.00)	2.0 (0.66)	4.6 (0.92)	8.0 (1.33)	4.6 (0.92)	33.0 (1.00)
4	1	12.0 (1.71)	6.0 (1.50)	6.0 (2.00)	6.0 (2.00)	10.0 (2.00)	12.0 (2.00)	10.0 (2.00)	62.0 (1.88)
5	5	8.2 (1.17)	5.0 (1.25)	4.6 (1.53)	1.8 (0.60)	6.8 (1.36)	11.6 (1.93)	5.8 (1.16)	43.8 (1.33)
6	8	11.2 (1.60)	5.0 (1.25)	4.8 (1.60)	3.6 (1.20)	6.4 (1.28)	10.9 (1.82)	5.2 (1.04)	47.1 (1.43)
7	15	9.4 (1.34)	5.7 (1.42)	3.5 (1.17)	3.1 (1.03)	5.2 (1.04)	9.4 (1.57)	7.2 (1.44)	43.4 (1.31)
8	16	9.8 (1.40)	5.8 (1.45)	3.9 (1.30)	2.9 (0.96)	5.9 (1.18)	8.1 (1.35)	7.1 (1.42)	43.5 (1.32)
9	16	9.8 (1.40)	5.4 (1.35)	4.4 (1.46)	2.6 (0.86)	4.8 (0.96)	11.6 (1.93)	6.8 (1.36)	45.5 (1.38)
10	14	10.8 (1.54)	4.8 (1.20)	3.4 (1.13)	3.1 (1.03)	5.1 (1.02)	9.9 (1.65)	6.4 (1.28)	43.5 (1.32)

*Denotes adjustment to original survey scale. Listed in parentheses.

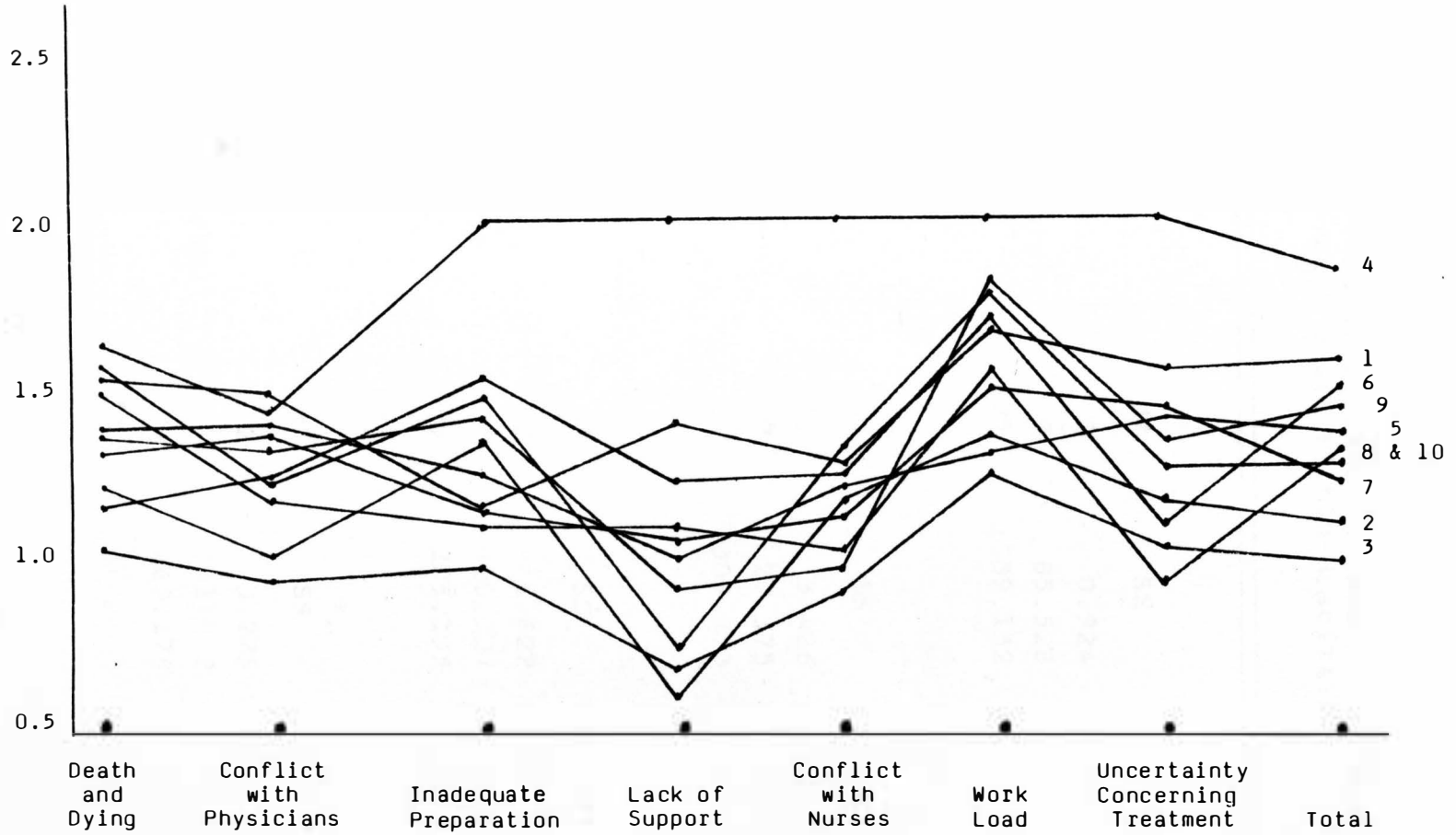

Figure 2

Adjusted Means Scores by Unit:
Nursing Stress Scale

Table 9

Nested Analysis-of-Variance Between Hospitals and Between Units Within Hospitals

DEATH AND DYING

Source	df	SS	MS	F
Hospital	2	0.924	0.462	0.96
Unit (Hosp)	7	85.528	12.218	0.89
Residual	79	1089.132	13.786	

CONFLICT WITH PHYSICIANS

Source	df	SS	MS	F
Hospital	2	3.426	1.713	0.44
Unit (Hosp)	7	27.375	3.910	1.00
Residual	79	309.373	3.916	

INADEQUATE PREPARATION

Source	df	SS	MS	F
Hospital	2	8.622	4.310	1.49
Unit (Hosp)	7	20.207	2.886	1.12
Residual	79	203.135	2.571	

LACK OF SUPPORT

Source	df	SS	MS	F
Hospital	2	3.275	1.637	0.28
Unit (Hosp)	7	41.272	5.896	1.73
Residual	79	269.174	3.407	

Table 9
(Continued)

CONFLICT WITH OTHER NURSES

Source	df	SS	MS	F
Hospital	2	32.152	16.075	3.03
Unit (Hosp)	7	37.084	5.297	0.85
Residual	79	491.191	6.218	

WORKLOAD

Source	df	SS	MS	F
Hospital	2	23.553	11.776	0.63
Unit (Hosp)	7	131.400	18.770	2.38*
Residual	79	623.028	7.886	

UNCERTAINTY CONCERNING TREATMENT

Source	df	SS	MS	F
Hospital	2	20.491	10.245	1.34
Unit (Hosp)	7	53.574	7.653	1.26
Residual	79	481.466	6.094	

NURSING STRESS SCALE TOTAL

Source	df	SS	MS	F
Hospital	2	44.556	22.278	0.12
Unit (Hosp)	7	1255.517	179.359	1.18
Residual	79	12042.575	152.438	

*Significant at the 0.05 level

Units 9 and 7 being equal was 0.0352. This is significant at the 0.05 level. The probability of Unit 9 equaling Unit 8 was shown to be 0.0007. This is highly significant at the 0.01 level. Table 10 presents the results of the Least Squares Difference test performed on that data relevant to the Work-load sub-scale.

In summation, this chapter explained the procedures used in computing and tabulating raw scores, described the study sample, and presented the statistical findings.

Table 10

Least Squares Means for Effect: Workload
Between Units Within Hospitals

HOSPITAL		A				B		C			
	UNIT	1	2	3	4	5	6	7	8	9	10
A	1	.	.	.	.	.	.	.	.	.	.
	2	.1797	.	.	.	.	.	.	.	.	.
	3	.1483	.9106	.	.	.	.	.	.	.	.
	4	.6916	.2204	.1973	.	.	.	.	.	.	.
B	5	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	.6519	.	.	.	.	.
C	7	.	.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.1889	.	.	.
	9	.	.	.	.	.	.	.0352*	.0007**	.	..
	10	.	.	.	.	.	.	.6139	.0732	.1159	.

* Denotes significance at the 0.05 level
** Denotes significance at the 0.01 level

CHAPTER 5

Summary, Findings, Implications, and Recommendations

This chapter summarizes the research problem and methodology, presents and discusses the major findings, reviews the implications for nursing, and suggests recommendations for further research.

Summary of the Research Problem and Methodology

This research was conducted in order to identify the frequency with which registered nurses perceive stressful situations and to explore potential relationships between this frequency and the physical attributes of the nursing unit in which they work. McGrath's theory on organizational behavior provided a conceptual framework for this study.

The literature review included studies on nursing stress and its relationship to stressors within the work environment. A number of studies found workload to be a primary cause of stress in nurses, and several of these studies concluded that workload is an environmental factor.

This exploratory study used Gray-Toft and Anderson's Nursing Stress Scale as a survey tool. Eighty-nine registered nurses from ten nursing units within three hospitals responded to the questionnaire. The data was then compiled and analyzed using descriptive techniques as well as the inferential tests of ANOVA and Least Squared Differences.

Discussion of Findings

This study explored the frequencies with which stressful situations were perceived by registered nurses on ten medical/surgical nursing units. The physical attributes of each nursing unit were studied in relation to the frequency of nurse reported stressors.

A major finding of this study was the lack of statistically significant between-hospital variance in the frequencies of stressful situations. The literature review indicated that the work environment played a major role in determining nursing stress. Therefore, this researcher reasoned that if there were to be differences in frequencies of nurse reported stressors, then it would be most obvious and dramatic between hospitals, since these contexts offered the greatest diversity of physical attributes. However, the results of the nested ANOVA procedure failed to support this idea.

A second major finding of this research was that the variance between units within hospitals was not significant except in relation to one factor, workload. Other studies had accepted workload or work overload as a primary cause for stress in nursing.[55,56] A study conducted by Gray-Toft and Anderson found nursing workload, which they categorized as a stress factor of the physical environment, to be one of the most frequent causes of nursing stress.[57] These researchers also found between-unit variance in the frequencies with which registered nurses reported workload as a stressor. They

suggested that structural characteristics of hospital units and individual personality characteristics may have been important factors in relation to these differences.[58] Their work and this study support McGrath's conceptual framework, where he identifies stress arising from the interaction of the "physical" and "person" environmental systems as "task-based stress".

The findings of this study support Gray-Toft and Anderson's conclusion that workload is a primary cause of stress. The Nursing Stress Scale scores obtained in this research did reflect higher workload means than those of the other sub-scales. However, Gray-Toft and Anderson's contention that workload is related to the physical environment was not supported by this research. The between-unit variance in workload means did not appear to be due to unit design, size, occupancy rate, average daily census, or patient/staff ratios, all of which are characteristics of the physical environment.

The units showing statistically significant differences in their workload means were units 9 and 7, plus 9 and 8. They were located within the same hospital and were of similar design and size. Occupancy rates were high for all three units, but the unit displaying the highest workload mean, unit 9, had the lowest occupancy rate and average daily census of the three involved units. Unit 9 also displayed the lowest patient/staff ratio. It did have a

slightly higher patient to registered nurse ratio, but the range between units 9 and 8, the two units showing a highly significant variance in workload means, was less than it was between any of the other units within that hospital. Therefore, the physical attributes of those nursing units studied did not appear to be related to the differences in frequencies of workload stress.

An analysis of the types of nursing activity conducted on the units did display a difference of focus. Even though they are all general medical/surgical nursing units, unit 9 differs from the other two units in that it specialized in caring for surgical patients. This may serve as a possible explanation for the higher mean level in workload on unit 9, but further research needs to be done to validate this hypothesis.

Implications for Nursing

The findings of this study may have the following implications for nursing:

1. Nursing administrators may gain a greater understanding of managing nursing workload so that stress is at a level most conducive to maximum productivity. This may be especially helpful in the current atmosphere of health care cost containment.

2. Nursing researchers may gain further insights upon which to conduct research concerning nursing stress, its

causes and its management.

3. Architects and hospital designers may gain a greater understanding of the role of the physical environment as a stress factor, and, therefore, design nursing units in the future which are less stressful to nursing personnel.

Recommendations

Based on the findings of this study, it is recommended that:

1. This study be repeated on a nationwide, randomly selected sample of larger number.

2. A theoretical framework be developed to explain nursing workload and its effects on nurses' perceptions of stress.

3. Research be conducted to explore the relationship between workload and productivity in nursing.

4. Further research relating nursing stress to hospital design and size be conducted.

5. Research be conducted to explore the relationship between types of nursing care, surgical versus medical, and the frequency of stressful situations each produces.

NOTES

[1]U.S., Health Resources Administration, Nurse Supply, Distribution, and Requirements: Third Report to the Congress, Public Health Service Publication, No. HRA 82-7 (Washington, D.C.: GPO 1982), 21.

[2]U.S. Bureau of the Census, Statistical Abstract of the United States (103d edition), (Washington, D.C.: GPO 1982), p. 107.

[3]Charles H. White, "Where Have All the Nurses Gone and Why?" Hospitals, 54 (1980), 68-69.

[4]Ramon Lavendero, "Nurses Burnout: What Can We Learn?" Journal of Nursing Administration, 11 (1981), 21.

[5]Robert L. Kahn, Donald M. Wolfe, Robert P. Quinn, and J. Diedrick Snoek, Organizational Stress: Studies in Role Conflict and Ambiguity (New York: John Wiley and Sons, Inc., 1964), p. 12.

[6]Joseph E. McGrath, "Stress and Behavior in Organizations," in Handbook of Industrial and Organizational Psychology, ed. Marvin D. Dunnette (Chicago: Rand-McNally, 1976), p. 1352.

[7]Hans Seyle, The Stress of Life (New York: McGraw-Hill, 1956), p. 56.

[8]Margery Garbin, "Stress Research in Clinical Settings," Topics in Clinical Nursing, 1 (1979), pp. 87-95.

[9]T.L. Albrecht, "What Job Stress Means for the Staff Nurse," Nursing Administration Quarterly, 7 (1982), pp. 1-11.

[10]McGrath, op. cit., p. 1367.

[11]Ibid., pp. 1369-1372.

[12]Ibid., pp. 1367-1369.

[13]Ibid.

[14]Ibid., p. 1369.

[15]Ibid.

[16]Pamela Gray-Toft and James G. Anderson, "Stress Among Hospital Nursing Staff: Its Cause and Effects." Social Science and Medicine, 15A (1981), p. 639.

[17]Selye, loc. cit.

[18]Robert L. Veninga, The Human Side of Health Administration (Englewood Cliffs, New Jersey: Prentice-Hall, 1982), p. 292.

[19]Seyle, op. cit., p. 64.

[20]McGrath, op. cit., p. 1352.

[21]Ibid., p. 1359.

[22]Roxann Pope, "Identifying Organizational Stressors: The Nurses Role," Occupational Health Nursing, 30 (1982), p. 34.

[23]Alan A. McClean, Work Stress (Reading, Mass.: Addison-Wesley, 1979), p. 15.

[24]Pamela K.S. Patrick, "Burnout: Job Hazard for Health Workers," Hospitals, 53 (1979), p. 89.

[25]Veninga, op. cit., p. 299.

[26]J.G. Miller, "Information Input Overload and Psychopathology," American Journal of Psychiatry, 8 (1960), p. 116.

[27]F.E.P. Menzies, "Nurses Under Stress," International Nursing Review, 7 (1960), pp. 9-12.

[28]D.R. Michaels, "Too Much in Need of Support to Give Any," American Journal of Nursing, 71 (1971), pp. 1932-1935.

[29]P.A. Holsclaw, "Nursing in High Emotional Risk Areas", Nursing Forum, 4 (1965), p. 37.

[30]R. Vreeland and G. Ellis, "Stresses on the Nurse in an Intensive Care Unit," Journal of the American Medical Association, 208 (1969), pp. 332-334.

[31]N.H. Cassem and T.P. Hackett, "Stress on the Nurse and Therapist in the Intensive Care Unit and Coronary Care Unit," Heart and Lung, 4 (1975), pp. 252-258.

[32]June T. Bailey, "Stress and Stress Management: An Overview," Journal of Nursing Education, 19 (1980), pp. 5-7.

[33]Ruth R. Edelstein, "Automation: Its Effects on the Nurse," American Journal of Nursing, 66 (1966), p. 2194.

[34]Donald Hay and Donald Oken, "The Psychological Stress of Intensive Care Nursing," Psychosomatic Medicine, 34 (1972), p. 110.

[35]W. Doyle Gentry and Katharine R. Parkes, "Psychological Stress in Intensive Care Unit and Non-Intensive Care Unit Nursing: A Review of the Past Decade," Heart and Lung, 11 (1982), p. 46.

[36]J.P. Maloney, "Job Stress and Its Consequences on a Group of Intensive Care and Non-Intensive Care Nurses," Advances in Nursing Science, 4 (1982), p. 40

[37]Ibid., p. 41.

[38]Troy Caldwell and Myron F. Weiner, "Stress and Coping in ICU Nursing: I. A Review," General Hospital Psychiatry, 3 (1981), p. 122.

[39]Albrecht, op. cit., p. 1.

[40]Garbin, op. cit., p. 89.

[41]Saroj Parasuraman, Bruce H. Drake and Raymond F. Zammuto, "The Effect of Nursing Care Modalities and Shift Assignments on Nurses Work Experiences and Job Attitudes," Nursing Research, 31 (1982), p. 366.

[42]Cheryl S. Alexander, Carol S. Weisman and Gary A. Chase, "Determinants of Staff Nurses' Perceptions of Autonomy within Different Clinical Contexts," Nursing Research, 31 (1982), p. 51.

[43]Lavendero, op. cit., p. 18.

[44]Ibid., p. 22.

[45]Gray-Toft and Anderson, op. cit., p. 640.

[46]Ibid., p. 641.

[47]Ibid.

[48]Denise Polit and Bernadette Hungler, Nursing Research: Principles and Methods (Philadelphia: J.B. Lippincott, 1978), p. 24.

[49]Ibid., p. 199.

[50]Pamela Gray-Toft and James G. Anderson, "The Nursing Stress Scale: Development of an Instrument," Journal of Behavioral Assessment, 3 (1981), pp. 11-23.

[51]Ibid., pp. 14-15.

[52]Ibid., pp. 15-17.

[53]Ibid., pp. 17-19.

[54]Ibid., pp. 19-21.

[55]Gentry and Parker, op. cit., pp. 43-47.

[56]Caldwell and Weiner, op. cit., pp. 119-127.

[57]Gray-Toft and Anderson, "Stress Among Hospital Nursing Staff," pp. 640-641.

[58]Gray-Toft and Anderson, "Stress Among Hospital Nursing Staff," p. 645.

BIBLIOGRAPHY

Books

Kahn, Robert L., Donald M. Wolfe, Robert P. Quinn, and J. Diedrick Snoek. Organizational Stress: Studies in Role Conflict and Ambiguity. New York: John Wiley, 1964.

McClean, Alan A. Work Stress. Reading, Mass.: Addison-Wesley, 1979.

McGrath, Joseph E. "Stress and Behavior in Organizations." In Handbook of Industrial and Organizational Psychology. Ed. Marvin D. Donnette. Chicago: Rand-McNally, 1970.

Polit, Denise and Bernadette Hungler. Nursing Research: Principles and Methods. Philadelphia: J.B. Lippincott, 1978.

Selye, Hans. The Stress of Life. New York: McGraw-Hill, 1956.

Veninga, Robert L. The Human Side of Health Administration. Englewood Cliffs, N.J.: Prentice-Hall, 1982.

Periodicals

Albrecht, T.L. "What Job Stress Means for the Staff Nurse." Nursing Administration Quarterly, 7, No. 1 (1982), 1-11.

Alexander, Cheryl S., Carol S. Weisman, and Gary A. Chase. "Determinants of Staff Nurses' Perceptions of Autonomy Within Clinical Contexts." Nursing Research, 31, No. 1 (1982), 48-52.

Bailey, June T. "Stress and Stress Management: An Overview." Journal of Nursing Education, 19, No. 6 (1980), 5-7.

Caldwell, Troy and Myron F. Weiner. "Stress and Coping in ICU Nursing: I. A Review." General Hospital Psychiatry, 3, No. 1 (1981), 119-127.

Cassem, N.H. and T.P. Hackett. "Stress on the Nurse and Therapist in the Intensive Care Unit and Coronary Care Unit." Heart and Lung, 4, No. 2 (1975), 252-258.

Edelstein, Ruth R. "Automation: Its Effects on the Nurse." American Journal of Nursing, 66, No. 10 (1966), 2194-2198.

Garbin, Margery. "Stress Research in Clinical Settings." Topics in Clinical Nursing, 1, No. 1 (1979), 87-95.

Gentry, W. Doyle and Katharine R. Parkes. "Psychological Stress in Intensive Care Unit and Non-Intensive Care Unit Nursing: A Review of the Past Decade." Heart and Lung, 11, No. 1 (1982), 43-47.

Gray-Toft, Pamela and James G. Anderson. "Stress Among Hospital Nursing Staff: Its Causes and Effects." Social Science and Medicine, 15A, No. 5 (1981), 639-647.

_____. "The Nursing Stress Scale: Development of an Instrument." Journal of Behavioral Assessment, 3, No. 1 (1981), 11-23.

Hay, Donald and Donald Oken. "The Psychological Stresses of Intensive Care Unit Nursing." Psychosomatic Medicine, 32, No. 2 (1972), 109-118.

Holsclaw, P.A. "Nursing in High Emotional Risk Areas." Nursing Forum, 4, No. 4 (1965), 36-45.

Lavendero, Ramon. "Nurse Burnout: What Can We Learn?" Journal of Nursing Administration, 11, No. 11-12, (1981), 17-23.

Maloney, J.P. "Job Stress and Its Consequences on a Group of Intensive Care and Non-Intensive Care Nurses." Advances in Nursing Science, 4, No. 2 (1982), 31-42.

Menzies, F.E.P. "Nurses Under Stress." International Nursing Review, 7, No. 2 (1960), 9-12.

Michaels, D.R. "Too Much in Need of Support to Give Any." American Journal of Nursing, 71, No. 10 (1971), 1932-1935.

Miller, J.G. "Information Input Overload and Psychopathology." American Journal of Psychiatry, 11b, No. 8 (1960), 695-704.

Parasuraman, Saroj, Bruce H. Drake and Raymond F. Zammuto. "The Effect of Nursing Care Modalities and Shift Assignments on Nurses Work Experiences and Job Attitudes." Nursing Research, 31, No. 6 (1982), 364-367.

Patrick, Pamela S. "Burnout: Job Hazard for Health Workers." Hospitals, 53, No. 22 (1979), 87-90.

Pope, Roxann. "Identifying Organizational Stressors: The Nurses Role." Occupational Health Nursing, 30, No. 3 (1982), 34-36.

Vreeland, R. and G. Ellis. "Stresses on the Nurse in an Intensive Care Unit." Journal of the American Medical Association, 208, No. 2 (1969), 332-334.

White, Charles H. "Where Have All the Nurses Gone and Why?" Hospitals, 54, No. 9 (1980), 68-71.

Government Documents

U.S. Bureau of the Census. Statistical Abstract of the United States: 1982-83. (103d edition) Washington, D.C.: Government Printing Office, 1982.

U.S. Public Health Service. Nurse Supply, Distribution and Requirements: Third Report to the Congress. DHHS Publication, No. HRA 82-7. Washington, D.C.: Government Printing Office, 1982.

APPENDIX A

NURSING STRESS SCALE

NURSING STRESS SCALE

Below is a list of situations that commonly occur on a hospital unit. For each item, indicate how OFTEN on your present unit you have found the situations to be STRESSFUL. Using the following scale, choose the response which BEST describes your answer and **write the number of your reponse in the blank prior to each statement.**

0) NEVER
1) OCCASIONALLY
2) FREQUENTLY
3) VERY FREQUENTLY

___ (23) Breakdown of the computer

___ (24) Criticism by a supervisor

___ (25) Performing procedures that patients experience as painful

___ (26) Feeling helpless in the case of a patient who fails to improve

___ (27) Conflict with a supervisor

___ (28) Listening or talking to a patient about his/her approaching death

___ (29) Lack of an opportunity to talk openly with other unit personnel about problems on the unit

___ (30) The death of a patient

___ (31) Conflict with a physician

___ (32) Fear of making a mistake in treating a patient

___ (33) Lack of an opportunity to share experiences and feelings with other personnel on the unit

___ (34) The death of a patient with whom you developed a close relationship

___ (35) Physician not being present when patient dies

___ (36) Disagreement concerning the treatment of a patient

___ (37) Feeling inadequately prepared to help with the emotional needs of a patient's family

___ (38) Lack of an opportunity to express to other personnel on the unit my negative feelings towards a patient

___ (39) Inadequate information from a physician regarding the medical condition of a patient

___ (40) Being asked a question by a patient for which I do not have a satisfactory answer

___ (41) Making a decision concerning a patient when the physician is unavailable

___ (42) Floating to other units that are short-staffed

___ (43) Watching a patient suffer

___ (44) Difficulty in working with a particular nurse (or nurses) outside the unit

___ (45) Feeling inadequately prepared to help with the emotional needs of the patient

___ (46) Criticism by a supervisor

___ (47) Unpredictable staffing or scheduling

___ (48) A physician ordering what appears to be inappropriate treatment for a patient

___ (49) Too many non-nursing tasks required, such as clerical work

___ (50) Not enough time to provide emotional support to a patient

___ (51) Difficulty in working with a particular nurse (or nurses) on the unit

___ (52) Not enough time to complete all of my nursing tasks

___ (53) A physician not being present in a medical emergency

___ (54) Not knowing what a patient or a patient's family ought to be told about the patient's medical condition and its treatment

___ (55) Uncertainty regarding the operation and functioning of specialized equipment

___ (56) Not enough staff to adequately cover the unit

APPENDIX B

DEMOGRAPHIC AND STRESS INFORMATION FORM

DEMOGRAPHIC AND STRESS INFORMATION

Write the number of your response in the blank prior to each statement. Where choices are provided, write the number which identifies your choice in the blank prior to each statement.

DEMOGRAPHIC:

____ (1-2) Unit code

____ (3-4) Age

____ (5) Sex
1) Male 2) Female

____ (6) Marital status:
1) Single
2) Married
3) Separated
4) Divorced
5) Widowed

____ (7-8) Number of children living at home

____ (9) Highest educational level
1) Associate degree
2) Diploma
3) Non-nursing Baccalaureate
4) Nursing Baccalaureate
5) Non-nursing Masters
6) Nursing Masters
7) Non-nursing Doctorate
8) Nursing Doctorate

____ (10-12) Total years of experience as an RN (if less than 1 yr state as a fraction)

____ (13-15) Total years as an RN in this hospital (if less that 1 yr state as a fraction)

____ (16-18) Total years as an RN on this unit (if less than 1 yr state as a fraction)

____ (19) What shift(s) go you GENERALLY work? (Answer only one)
1) Day
2) Evening
3) Night
4) Day/Evening Rotation
5) Day/Night Rotation
6) Evening/Night Rotation
7) Other (specify)

____ (20) What length of shift do you GENERALLY work? (Answer only one)
1) 8 hours
2) 10 hours
3) 12 hours
4) Other (specify)

____ (21) What is you current employment status? (Answer only one)
1) Full-time (Equal to or greater than 32 hrs per week)
2) Part-time (Less than 32 hrs per week)
3) Unscheduled part-time
4) Other (specify)

____ (22) In what position do you MOST OFTEN work? (Answer only one)
1) Staff RN
2) Charge Nurse
3) Asst. Head Nurse
4) Head Nurse
5) Clinician
6) Other (specify)

APPENDIX C

HOSPITAL AND UNIT INFORMATION FORM

HOSPITAL AND UNIT INFORMATION

Write the number of your response in the blank prior to each statement. Where choices are provided, write the number which identifies your choice in the blank prior to each statement.

HOSPITAL:

____ (1-2) Hospital code

____ (3-5) Number of hospital beds

____ (6-9) Total number of employed nursing personnel (Both FT & PT)

____ (10) Type of hospital:
1) Private/Non-Profit
2) Private/For-Profit
3) Corporate
4) Government
5) Other

UNIT:

____ (11-12) Unit code

____ (13-14) Number of available beds on the unit:

____ (15-17) Average occupancy rate of unit for past year:

____ (18-20) Occupancy rate multiplied by number of unit beds:

____ (21) Basic floor design of nursing unit:
1) single hall, "I"
2) double hall, "H"
3) double hall, "L"
4) square
5) circle
6) cross
7) star
8) other (specify)

____ (22-26) Square feet per patient bed on unit:

Nursing specialty(s) generally performed on unit (check all that apply)

____ (27) General medical
____ (28) General surgical
____ (29) Endocrinology
____ (30) Gynecology/OB
____ (31) Neurology
____ (32) Oncology
____ (33) Orthopedics
____ (34) Pulmonology
____ (35) Rectal/GI
____ (36) Urology
____ (37) Other (specify)

UNIT STAFFING:

____ (38-41) Total number of RNs budgeted for the unit in FTEs.

____ (42-45) Total number of LPNs budgeted for the unit in FTEs.

____ (46-49) Total number of NAs budgeted for the unit in FTEs.

____ (50-53) Total number of Nursing Staff budgeted for the unit in FTEs.

____ (54) Approach used in delivery of nursing care:
1) Primary
2) Team
3) Functional
4) Combination
5) Other (specify)

APPENDIX D

INSTRUCTION LETTER

Dear Employee:

I am a graduate student in the Master of Science program in nursing at South Dakota State University. In partial fulfillment for this degree, I am conducting a research project to assess the frequency at which nursing personnel perceive particular situations to be stressful.

This research project is designed to explore the impact of nursing unit size upon the frequency at which the nursing staff perceive particular situations as stressful. Nursing personnel from three selected hospitals will be surveyed. The instrument entitled "The Nursing Stress Scale" will be utilized to measure the frequencies. The data obtained will be tabulated so as to identify group perceptions rather than on an individual basis.

As an individual working on one of the selected nursing units, I request your participation. This is strictly voluntary. If you decide to participate, you will need to fill out the accompanying questionnaire. Complete anonymity will be maintained. No names are taken but the questionnaires are coded so that the data can be grouped according to nursing unit size. The questionnaire takes less than ten minutes to complete.

The Vice President/Administrator and Director of Nursing have given her/their permission for me to approach you and request your participation in this study. An abstract and a copy of the study will be available in the nursing office for you to read after the study is completed.

Your cooperation and help is appreciated in conducting this study.

Thank you for your consideration.

Sincerely,

RICHARD M. JONES, R.N.
Graduate Student
South Dakota State University